CLAIMS

1. A collagen construct comprising:

a plurality of elongate strips, each strip having a length;

each strip comprising a plurality of collagen fibres that are substantially aligned along the length of the respective strips;

wherein the strips are amassed together to produce the collagen construct.

2. A collagen construct as claimed in claim 1, wherein at least one of the collagen fibres in each strip extends continuously along the entire length of its respective strip.

3. A collagen construct as claimed in claim 1 or 2, wherein at least 50% of the collagen fibres in each strip extend continuously along the entire length of each respective strip.

4. A collagen construct as claimed in claim 3, wherein at least 80% of the collagen fibres in each strip extend continuously along the entire length of each respective strip.

5. A collagen construct as claimed in any one of the preceding claims, wherein each strip has a thickness of 50 µm to 400 µm.

6. A collagen construct as claimed in claim 5, wherein each strip has a thickness of 100 µm to 200 µm.

7. A collagen construct as claimed in any one of the preceding claims, wherein each strip has a width of 50 µm to 5 mm.

8. A collagen construct as claimed in claim 7, wherein each strip has a width of 1 mm to 3 mm.

9. A collagen construct as claimed in any one of the preceding claims, in which the plurality of the strips are braided, plaited, woven or twisted together to form one or more collagen ropes.

10. A collagen construct as claimed in claim 9, in which a plurality of the collagen ropes are braided, plaited, woven or twisted together to form one or more collagen cables.

11. A collagen construct as claimed in any one of the preceding claims, which has a length of 0.5 cm to 50 cm.

12. A collagen construct as claimed in claim 11, which has a length of 2 cm to 20 cm.

13. A collagen construct as claimed in any one of the preceding claims, which has a cross sectional area of 0.002 mm^2 to 18mm^2.

14. A collagen construct as claimed in any one of the preceding claims, which has a cross sectional area of 0.6 mm^2 to 2 mm^2.

15. A collagen construct as claimed in any one of claims 11 to 15, which is able to withstand a tensile load of 650 N without breaking or suffering any permanent deformation or damage.

16. A collagen construct as claimed in any one of the preceding claims, which comprises a tendon or ligament prosthesis.

17. A collagen construct as claimed in claim 16, wherein the prosthesis is an anterior cruciate ligament prosthesis.

18. A method for producing a collagen construct comprising the steps of:

a) forming a collagen membrane comprising numerous collagen fibres, wherein a majority of the fibres are substantially aligned parallel to each other in a common direction;

b) cutting the membrane along cut lines that are orientated substantially parallel to the common direction, thereby to separate elongate strips from the membrane; and

c) amassing together the elongate strips to form the collagen construct.

19. A method as claimed in claim 18, comprising the step of treating the membrane with acetone and subsequently drying the membrane, thereby to fix the collagen fibres in their aligned orientation.

20. A method as claimed in claim 18 or 19, comprising cutting the membrane in a manner so that each strip has a width sufficient that at least one of the collagen fibres extends continuously along the entire length of its respective strip.

21. A method as claimed in any one of claims 18 to 20, wherein the step of amassing the strips comprises braiding, plaiting, weaving, twisting or winding together a plurality of the collagen strips to produce a collagen rope.

22. A method as claimed in claims 21, comprising amassing sufficient strips so that the collagen rope has a cross sectional area of 0.002 mm^2 to 18mm^2.

23. A method as claimed in any one of claims 18 to 22, wherein the step of amassing the strips comprises amassing sufficient strips together to produce a collagen rope of a sufficient size for use as an anterior cruciate ligament prosthesis.

24. A medical kit for anterior cruciate ligament replacement comprising (a) a collagen construct as claimed in any one of claims 1 to 17; and (b) a sterile package enclosing the collagen construct.

25. A collagen construct as claimed in any one of claims 1 to 17 for use in repairing a tendon or ligament.

26. A collagen construct produced by a method as claimed in any one of claims 18 to 23 for use in repairing a tendon or ligament.

27. A method of repairing anterior cruciate ligament tears, partial or complete, comprising:

providing a collagen construct as claimed in any one of claims 1 to 17;

implanting the collagen construct to augment, repair or replace the anterior cruciate ligament; and

securing the collagen construct in place.

CLAIMS

1. A collagen construct comprising:

a plurality of elongate strips that have been cut from a collagen membrane comprising numerous collagen fibres, wherein a majority of the fibres are substantially aligned parallel to each other in a common direction, each strip having a length;

each strip comprising a plurality of collagen fibres that are substantially aligned along the length of the respective strips;

wherein the strips are amassed together to produce the collagen construct.

2. A collagen construct as claimed in claim 1, wherein at least one of the collagen fibres in each strip extends continuously along the entire length of its respective strip.

3. A collagen construct as claimed in claim 1 or 2, wherein at least 50% of the collagen fibres in each strip extend continuously along the entire length of each respective strip.

4. A collagen construct as claimed in claim 3, wherein at least 80% of the collagen fibres in each strip extend continuously along the entire length of each respective strip.

5. A collagen construct as claimed in any one of the preceding claims, wherein each strip has a thickness of 50 µm to 400 µm.

6. A collagen construct as claimed in claim 5, wherein each strip has a thickness of 100 µm to 200 µm.

7. A collagen construct as claimed in any one of the preceding claims, wherein each strip has a width of 50 µm to 5 mm.

8. A collagen construct as claimed in claim 7, wherein each strip has a width of 1 mm to 3 mm.

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9. A collagen construct as claimed in any one of the preceding claims, in which the plurality of the strips are braided, plaited, woven or twisted together to form one or more collagen ropes.

10. A collagen construct as claimed in claim 9, in which a plurality of the collagen ropes are braided, plaited, woven or twisted together to form one or more collagen cables.

11. A collagen construct as claimed in any one of the preceding claims, which has a length of 0.5 cm to 50 cm.

12. A collagen construct as claimed in claim 11, which has a length of 2 cm to 20 cm.

13. A collagen construct as claimed in any one of the preceding claims, which has a cross sectional area of 0.002 mm^2 to 18mm^2.

14. A collagen construct as claimed in any one of the preceding claims, which has a cross sectional area of 0.6 mm^2 to 2 mm^2.

15. A collagen construct as claimed in any one of claims 11 to 14, which is able to withstand a tensile load of 650 N without breaking or suffering any permanent deformation or damage.

16. A collagen construct as claimed in any one of the preceding claims, which comprises a tendon or ligament prosthesis.

17. A collagen construct as claimed in claim 16, wherein the prosthesis is an anterior cruciate ligament prosthesis.

18. A method for producing a collagen construct comprising the steps of:

a) forming a collagen membrane comprising numerous collagen fibres, wherein a majority of the fibres are substantially aligned parallel to each other in a common direction;

b) cutting the membrane along cut lines that are orientated substantially parallel to the common direction, thereby to separate elongate strips from the membrane; and

c) amassing together the elongate strips to form the collagen construct.

19. A method as claimed in claim 18, comprising the step of treating the membrane with acetone and subsequently drying the membrane, thereby to fix the collagen fibres in their aligned orientation.

20. A method as claimed in claim 18 or 19, comprising cutting the membrane in a manner so that each strip has a width sufficient that at least one of the collagen fibres extends continuously along the entire length of its respective strip.

21. A method as claimed in any one of claims 18 to 20, wherein the step of amassing the strips comprises braiding, plaiting, weaving, twisting or winding together a plurality of the collagen strips to produce a collagen rope.

22. A method as claimed in claims 21, comprising amassing sufficient strips so that the collagen rope has a cross sectional area of 0.002 mm^2 to 18mm^2.

23. A method as claimed in any one of claims 18 to 22, wherein the step of amassing the strips comprises amassing sufficient strips together to produce a collagen rope of a sufficient size for use as an anterior cruciate ligament prosthesis.

24. A medical kit for anterior cruciate ligament replacement comprising (a) a collagen construct as claimed in any one of claims 1 to 17; and (b) a sterile package enclosing the collagen construct.

25. A collagen construct as claimed in any one of claims 1 to 17 for use in repairing a tendon or ligament.

26. A collagen construct produced by a method as claimed in any one of claims 18 to 23 for use in repairing a tendon or ligament.

27. A method of repairing anterior cruciate ligament tears, partial or complete, comprising:

providing a collagen construct as claimed in any one of claims 1 to 17;

implanting the collagen construct to augment, repair or replace the anterior cruciate ligament; and

securing the collagen construct in place.